

# HAWAI'I JOURNAL WATCH

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**Highlights of recent research from the University of Hawai'i and the Hawai'i State Department of Health**

## PROJECT TO STRENGTHEN RESEARCH CAPACITY IN AMERICAN SAMOA TRAINS ITS FIRST COHORT

The Indigenous Samoan Partnership to Initiate Research Excellence (INSPIRE) project is aimed at strengthening research capacity in American Samoa and includes partners from American Samoa and the US. During the first year of the project, the partners, including Lana Sue 'Ilima Ka'opua PhD, of the Myron B. Thompson School of Social Work, worked together to establish a foundation and train the first cohort of researchers. The partners developed a weaving approach, incorporating both Samoan and Western knowledge into the training project, which involved developing ways to increase screening rates for colorectal cancer in American Samoa. The project succeeded in research capacity strengthening, training seven individuals. The project partners found that the trainees preferred working together in group learning activities, increased their commitment to health disparities research over the course of the project, and would recommend the training to others. The goals of sustainable global health and health equity will require sustained human relationships, the researchers concluded.

- Tofaeono V, Ka'opua LSI, Sy A, et al. Research capacity strengthening in American Samoa: Fa'avaina le fa'ateleaga o le tomiai aa'ilili i Amerika Samoa. *Br J Soc Work*. 2020;50(2):525-547. doi:10.1093/bjsw/bcz160

## PROGNOSTIC FACTORS OF MICROCEPHALY IN INFANTS OF WOMEN INFECTED WITH ZIKA VIRUS

Among women with Zika virus infections during pregnancy, microcephaly in the infant may be more common among women infected during the first trimester, women with symptomatic infections, and male infants. Researchers including Vivek R. Nerurkar PhD, of the John A. Burns School of Medicine, conducted a systematic review and meta-analysis to identify prognostic factors of microcephaly in newborns and fetuses whose mothers had Zika infections during pregnancy. The researchers identified 12 studies published between 2015 and 2018, including 6 whose authors provided primary data for the meta-analysis. The studies involved a total of 6154 newborns/fetuses, including 1120 (18.20%) who were diagnosed with Zika virus infections. Of those, 509 (45.45%) were diagnosed with microcephaly. Females had a lower microcephaly risk compared with males (RR 0.79). Infants of women without infection symptoms had a lower microcephaly risk (RR 0.68) compared to those born to women with symptomatic infections, and infections during the first trimester were linked with higher microcephaly risk (RR 1.42) compared with later infections. Maternal age and ethnicity were not prognostic of microcephaly risk. Because the studies included in the meta-analysis varied in their definitions of Zika virus infection and in their data collection, the researchers concluded there is a need for greater consistency in methods across studies.

- Gallo LG, Martinez-Cajas J, Peixoto HM, et al. Another piece of the Zika puzzle: assessing the associated factors to microcephaly in a systematic review and meta-analysis. *BMC Public Health*. 2020;20(1):827. doi:10.1186/s12889-020-08946-5

## POTENTIAL NEW BIOMARKERS OF PANCREATIC CANCER IDENTIFIED

A new study has identified 38 proteins as candidate biomarkers of pancreatic ductal adenocarcinoma (PDAC), a highly lethal cancer that is often asymptomatic in its early stages. Researchers including senior author Lang Wu PhD, of the UH Cancer Center, conducted a large study including 8280 cases and 6728 controls from the Pancreatic Cancer Cohort Consortium and the Pancreatic Cancer Case-Control Consortium. They used genetic variants known to be associated with protein levels to estimate the genetically predicted blood concentrations of a wide range of proteins, and then analyzed the associations between the predicted protein concentrations and PDAC risk. Eight of the 38 candidate biomarkers were associated with PDAC risk independent of previously identified PDAC risk variants. More work is needed to confirm the findings, but the results suggest avenues that could further the understanding of the etiology of PDAC.

- Zhu J, Shu X, Guo X, et al. Associations between genetically predicted blood protein biomarkers and pancreatic cancer risk. [published online ahead of print, 2020 May 21]. *Cancer Epidemiol Biomarkers Prev*. 2020;10.1158/1055-9965.EPI-20-0091.

## NEW SCALE TO MEASURE RESILIENCE INCORPORATES INDIGENOUS PERSPECTIVE

Native Hawaiians who have higher levels of resilience may also have better health. Researchers led by Mapuana C.K. Antonio, DrPH, of the Office of Public Health Studies, developed a new scale to measure resilience in Native Hawaiians taking into account not only traditional measures of resilience, such as self-reliance, but also the Indigenous perspective of resilience, which places high value on relationships. The scale was psychometrically tested using survey data from 124 Native Hawaiian adults living on Hawaiian Homestead Lands. Results showed participants who scored higher on the resilience scale also reported higher levels of general health, mental health, and physical functioning. The psychometric properties of the new scale demonstrated good model fit (RMSEA=.069, CFI=.989) and good validity. The new scale can be used in future research on Native Hawaiian health that uses a strength-based approach.

- Antonio MCK, Hishinuma ES, Townsend Ing C, et al. A resilience model of adult Native Hawaiian health utilizing a newly multi-dimensional scale [published online ahead of print, 2020 May 1]. *Behav Med*. 2020;1-20. doi:10.1080/08964289.2020.1758610

## THE NEEDS AND PRIORITIES OF ENVIRONMENTAL HEALTH PROFESSIONALS

Environmental health (EH) professionals in state and local health departments fulfill vital roles, addressing environment-related threats to human health including natural disasters and water contamination, yet there is no common definition for the EH profession. Environmental health specialists nationwide including Darren Tamekazu BS, of the Hawai'i State Department of Health, met and assisted in assessing the EH workforce. The results of these focus groups aimed at analyzing the priorities and needs of EH workers. Results showed a need for increased leadership development among EH professionals, a need for a comprehensive framework to help EH professionals to identify partner organizations and foster collaborative relationships, and a need for studies to determine the impact of EH interventions on improving health outcomes. The group concluded that a robust EH workforce will be needed to meet the challenges of the 21st century.

- Gerding JA, Brooks BW, Landeen E, et al. Identifying needs for advancing the profession and workforce in environmental health. *Am J Public Health*. 2020;110(3):288-294. doi:10.2105/AJPH.2019.305441